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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,342	06/25/2003	Seishin Mikami	4041J-000732	2633
27572	7590	07/14/2005	EXAMINER	
HARNES, DICKEY & PIERCE, P.L.C.			TRAN, CHUC	
P.O. BOX 828			ART UNIT	
BLOOMFIELD HILLS, MI 48303			PAPER NUMBER	
			2821	

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/603,342

Applicant(s)

MIKAMI ET AL

Examiner

Chuc D. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This is a response to the Applicant's amendment submitted on April 26, 2005. In this amendment a new claim 11 has been added; and thus, total claims 1-11 are now active in the instant application.

#### ***Allowable Subject Matter***

1. The indicated allowability of claims 4 and 5 are withdrawn in view of the newly discovered reference(s) to Egashira et al (USP. 5,539,418). Rejections based on the newly cited reference(s) follow.

#### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-3 and 6-11 have been considered but are moot in view of the new ground(s) of rejection.

Applicants argue that the reference of the prior art fails to teach or suggest the radiating element as being one side of the vehicle body and the ground plate being on the opposite side of the vehicle body. The Examiner respectfully disagree. The new reference by Egashira et al clearly teach or suggest the radiating element (20) as being one side of the vehicle body (90) (Fig. 1) and the ground plate (10) being on the opposite side of the vehicle body (90) (Fig. 9).

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Egashira et al (USP. 5,539,418).

Regarding claim 1, Egashira et al disclose an antenna apparatus mounted in a through hole defined by a vehicle body made of metal in Fig. 23, the antenna apparatus comprising:

- a planar antenna having a radiating element (20) and a ground plate (10) (Fig. 1), wherein the radiating element (20) is spaced in one direction from one surface of the vehicle body (90) (Fig. 1), and
- the ground plate (10) is spaced in an opposite direction from an opposite surface of the vehicle body (90) (Fig. 9).

Regarding claim 2, Egashira et al disclose that the vehicle body defines a concavity (92) (Fig. 9), the through hole is formed in the bottom of the concavity (92) (Fig. 9), and

- the radiating element (20) is positioned in the concavity (92) (Fig. 9).

Regarding claim 3, Egashira et al disclose that a metal plate (30) positioned between the radiating element (20) and the ground plate (10) (Fig. 23).

Regarding claim 4, Egashira et al disclose that the vehicle body (90), the metal plate (30) and the ground plate (10) are electrically connected to each other to be at the same electric potential (80) (Fig. 23).

Regarding claim 5, Egashira et al disclose that the vehicle body (90) and the metal plate (30) are connected by an electrical connection element (50) (Fig. 9) (Col. 7, Line 26).

Regarding claim 6, Egashira et al disclose that the radiating element (20), the ground plate (10) and the metal plate (30) are molded by a resin (Col. 4, Line 31).

Regarding claim 7, Egashira et al disclose a method for mounting a planar antenna on a

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vehicle, the planar antenna having a radiating element and a ground plate, the method comprising the steps of:

- boring a hole through a body of the vehicle (Fig. 9), and
- locating the planar antenna in the through hole (Fig. 23) so that an internal edge of the hole is positioned between the radiating element (20) and the ground plate (10) (See. Fig. 1 and 9).

Regarding claim 8, Egashira et al disclose an antenna apparatus mounted in a through hole defined by a metal attachment plate the antenna apparatus comprising:

- a planar antenna having a radiating element (20) and a ground plate (10) (Fig. 23), wherein
- the radiating element (20) is spaced in one direction from one surface of the metal attachment plate (30) (Fig. 23);
- the ground plate (10) is spaced in an opposite direction from an opposite surface of the metal attachment plate (30) (Fig. 23); and
- the metal attachment (30) is integral with a vehicle body (90) (Fig. 23).

Regarding claim 9, Egashira et al disclose that an internal edge of the hole is positioned between the radiating element (20) and the ground plate (10) See (Fig. 1 and 9).

Regarding claim 10, Egashira et al disclose an antenna apparatus mounted on a vehicle, the antenna apparatus comprising:

- a planar antenna having a radiating element (20) and a ground plate (10) (Fig. 1); and
- a metal vehicular body (90), the vehicular body defining a through hole which has an internal edge (Fig. 9); wherein

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- the internal edge of the through hole is located between the radiating element (20) and the ground plate (10) See (Fig. 1 and 9).

Regarding claim 11, Egashira et al disclose an antenna apparatus mounted in a hole defined by a vehicle body made of metal, the antenna apparatus comprising:

- a planar antenna having a radiating element (20) and a ground plate (10) (Fig. 1); and
- a metal plate (30) positioned between the radiating element (20) and the ground plate (10) (Fig. 23); wherein
  - the radiating element (20) is spaced in one direction from one side of the vehicle body (90) (Fig. 1);
  - the ground plate (20) is spaced in an opposite direction from an opposite side of the vehicle body (90) (Fig. 9); and
  - the vehicle body (90), the metal plate (30) and the ground plate (10) are electrically connected to each other to be at the same electric potential (80) (Fig. 23).

#### *Citation of relevant Prior Art*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art Hirata et al (USP. 5,392,053) disclose array antenna and system.

Prior art Izadian (USP. 5,300,936) disclose multiple band antenna.

#### *Inquiry*


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuc D. Tran whose telephone number is (571) 272-1829. The examiner can normally be reached on M-F Flex hours.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TC  
July 13, 2005



**HOANG V. NGUYEN**  
**PRIMARY EXAMINER**